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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/890,579	09/19/2001	Rika Wakao	084335-0144	6309

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EXAMINER

NICHOLS, CHRISTOPHER J

ART UNIT

PAPER NUMBER

1647

8

DATE MAILED: 08/07/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/890,579	WAKAO ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Christopher Nichols, Ph.D.	1647	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) Responsive to communication(s) filed on 17 September 2002.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) \_\_\_\_\_ is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) 1-22 are subject to restriction and/or election requirement.

**Application Papers**

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on \_\_\_\_\_ is: a) approved b) disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) All b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: \_\_\_\_\_.

**DETAILED ACTION**

*Election/Restrictions*

1. Restriction is required under 35 U.S.C. 121 and 372.
2. This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.
3. In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group 1, claim(s) 1-4, drawn to a method for differentiating a multipotent mesenchymal stem cell into adipocytes, comprising incubating the multipotent mesenchymal stem cell in the presence of prolactin or a substance with an equivalent effect to prolactin.

Group 2, claim(s) 5-9, drawn to a method of screening for inhibitors or accelerators of adipocyte differentiation, comprising incubating multipotent mesenchymal stem cells in the presence of a test compound and prolactin or a substance with an equivalent effect to prolactin.

Group 3, claim(s) 10-12, drawn to a method of screening for inhibitors or accelerators of adipocyte differentiation, comprising contacting prolactin with a test compound, contacting a prolactin receptor with a test compound, or contacting prolactin with the prolactin receptor in the presence of a test compound.

Group 4, claim(s) 13, drawn to a method of screening for inhibitors or accelerators of adipocyte differentiation, comprising providing cells expressing the endogenous prolactin receptor and transfected with a vector containing a promoter, which is activated in response to prolactin, an a reporter gene functionally fused downstream to it.

Group 5, claim(s) 14, drawn to an adipocyte differentiation inhibitor, which contains a prolactin inhibitor as the active ingredient.

Group 6, claim(s) 15, drawn to an adipocyte differentiation inhibitor, which contains a prolactin receptor inhibitor as the active ingredient.

Group 7, claim(s) 16, drawn to an adipocyte differentiation accelerator, which contains a prolactin activator as the active ingredient.

Group 8, claim(s) 17, drawn to an adipocyte differentiation accelerator, which contains a prolactin receptor activator as the active ingredient.

Group 9, claim(s) 18, drawn to an adipocyte differentiation accelerator, which can be isolated by the method of claim 5.

Group 10, claim(s) 19-21, drawn to an adipocyte differentiation accelerator, a PPAR $\gamma$  expression-inducing agent, or a C/EBP $\beta$  expressing-inducing agent, which contains a prolactin as the active ingredient.

Group 11, claim(s) 22, drawn to a compound that inhibits or promotes adipocyte differentiation, which inhibits or accelerates intracellular signal transduction of prolactin.

4. According to PCT Rule 13.2, unity of invention exists only when the shared same or corresponding technical feature is a contribution over the prior art. The inventions listed as Groups 1-11 do not relate to a single general inventive concept because they lack the same or corresponding special technical feature. The technical feature of Group 1 is the incubation of a multipotential mesenchymal stem cell, such as a NIH-3T3 cell, with prolactin or substance with an equivalent effect to prolactin which is shown by Perrot-Applanat *et al.* (May 1997)

"Internalization of prolactin receptor and prolactin in transfected cells does not involve nuclear translocation." Journal of Cell Science 110(9): 1123-1132 to lack novelty or inventive step as Perrot-Applanat *et al.* teaches the incubation of NIH-3T3 cells with prolactin (Figure 4) and does not make it a contribution over the prior art.

5. Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

6. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Christopher James Nichols, Ph.D.** whose telephone number is 703-305-3955. The examiner can normally be reached on Monday through Friday, 8:00AM to 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Gary Kunz, Ph.D.** can be reached on 703-308-4623. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and 703-872-9307 for After Final communications. The fax phone numbers for the customer service center is 703-872-9305

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0196.

*Gary J. Kunz*  
**GARY KUNZ**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 1600**

CJN

July 28, 2003